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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,170	10/16/2001	David R. Cheriton	41679	5639

26327 7590 08/23/2005

THE LAW OFFICE OF KIRK D. WILLIAMS
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EXAMINER

PHUNKULH, BOB A

ART UNIT PAPER NUMBER

2661

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/981,170	CHERITON, DAVID R.	
	Examiner	Art Unit	
	Bob A. Phunkulh	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/01/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 6-9, 14-16, 18-19, 21 are rejected under 35 U.S.C. 102(e) as being anticipated by *Shabtay* et al. (US 2002/120743), hereinafter *Shabtay*.

Regarding claim 1, *Shabtay* discloses a switch (load balancer 24, figure 1) comprising:

a memory configured to store connection information (in paragraph 7, the load balancer 24 have information on “previously connections”);

a server address translator configured to receive a plurality of requests from a client over a single connection, to reference the memory to determine a plurality of servers to service said received plurality of requests; and to redirect said received plurality of requests to said determined plurality of servers (receiving a plurality of service requests from a client over a TCP connection, see paragraph 25); and

a client address translator configured to receive a plurality of responses from said determined plurality of servers; to organize said received plurality of responses into a stream of packets; and

to forward said stream of packets over the connection to the client (receiving responses to the forwarded requests from the respective servers, and forwarding the received responses to the client without storing the responses, see paragraph 25).

Regarding claim 3, *Shabtay discloses* a method comprising:
receiving a plurality of requests from a client over a single Transmission Control Protocol (TCP) connection (see paragraph 25);
redirecting the plurality of requests to a plurality of servers (see paragraph 25);
receiving a plurality of responses from the plurality of servers (see paragraph 25);
organizing the plurality of the responses into a stream of packets; and
sending the stream of packets to the client over the single connection (see paragraph 25).

Regarding claim 6, *Shabtay discloses* a computer-readable medium containing computer-executable instructions for performing the method of claim 3 (see figure 2).

Regarding claim 7, *Shabtay discloses* a packet switch performing, the method of claim 3 (the load balancer 24 function as the packet switch since it switch incoming packet requests to servers, see figure 1).

Regarding claim 8, *Shabtay discloses* a router performing the method of claim 3 (the load balancer 24 function as the packet switch since it route incoming packet requests to servers, see figure 1).

Regarding claim 9, *Shabtay discloses* a method comprising:

- receiving a first request over a connection from a client (step 50, figure 2);
- redirecting the first request to a first server (step 66, figure 2);
- receiving a first response to the first request from the first server (see paragraph 25);
- forwarding the first response over the connection to the client (see paragraph 25);
- receiving a second request over the connection from the client before said forwarding the first response (a plurality of requests from the same client and forwarding the requests to the selected servers including at least two servers, see paragraph 25) ;
- redirecting the second request to a second server (forwarding the requests to at least two servers, see paragraph 25);
- receiving a second response to the second request from the second server (see paragraph 25); and
- forwarding the second response over the connection to the client (see paragraph 25).

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Regarding claim 14, *Shabtay* discloses selecting the first server from a set of server identifiers maintained in a memory configured to store connection information (see paragraph 25).

Regarding claim 15, *Shabtay* discloses a computer-readable medium containing computer-executable instructions for performing the method of claim 9 (see figure 2).

Regarding claim 16, *Shabtay discloses* a method comprising:

- establishing a set of connections to a plurality of servers (the load balancer 24 establish a set of connections the server 22, see figure 1 and paragraph 8);
- maintaining an indication of the set of connections (previously established connections, see paragraph 7);
- receiving a first request over a Transmission Control Protocol (TCP) connection from a client (see paragraph 25);
- referencing the indication to determine a first one of the plurality of servers (see paragraph 25);
- redirecting the first request to the first one of the plurality of servers (see paragraph 25);
- receiving a first response to the first request from the first one of the plurality of servers (see paragraph 25);

receiving a second request over the connection from the client before said receiving the first response (receiving plurality of requests from the same client, see paragraph 25);

referencing the indication to determine a second one of the plurality of servers (forwarding the requests to the selected servers, paragraph 25);

redirecting the second request to the second one of the plurality of servers (forwarding the requests to the selected servers, paragraph 25);

receiving a second response to the second request from the second one of the plurality of servers (receiving responses from the selected servers, paragraph 25); and

organizing the first and second responses into a stream of packets (forwarding the responses with storing to the requesting client, paragraph 25).

Regarding claim 18, *Shabtay* discloses a computer-readable medium containing computer-executable instructions for performing the method of claim 16 (figure 2).

Regarding claim 19, *Shabtay discloses* an apparatus (the load balancer 24, figure 1) comprising:

means for receiving a plurality of requests from a client over a single connection (receiving the requests from client 26, see figure 1 and paragraph 25);

means for redirecting the plurality of requests to a plurality of servers (see paragraph 25);

means for receiving a plurality of responses from the plurality of servers (see paragraph 25 and figure 1);

means for organizing the plurality of the responses into a stream of packets (forwarding the received responses to the client without storing, see paragraph 25); and

means for sending the stream of packets to the client over the single connection (see paragraph 25).

Regarding claim 21, *Shabtay discloses* an apparatus (the load balancer 24) comprising:

means for establishing a set of connections to a plurality of servers (as shown in figure 1, the load balancer 24 establish a set of connections with the server 22);

means for maintaining a data structure indicating the set of connections (paragraph 7 discloses “previously established TCP” connection between the load balancer and the plurality of serves);

means for receiving a first request over a connection from a client (see steps 50-54 of figure 2);

means for referencing the data structure to determine a first one of the plurality of servers (see paragraph 7);

means for redirecting the first request to the first one of the plurality of servers (see paragraph 7);

means for receiving a first response to the first request from the first one of the plurality of servers (receiving response from the selected server, paragraph 25);

means for receiving a second request over the connection from the client before said receiving the first response (receiving a plurality of requests from the client, paragraph 25);

means for referencing the data structure to determine a second one of the plurality of servers (forwarding the requests to the selected servers, paragraph 25);

means for redirecting the second request to the second one of the plurality of servers (forwarding the request to the selected server, paragraph 25);

means for receiving a second response to the second request from the second one of the plurality of servers (receiving responses from the selected servers, paragraph 25);

means for organizing the first and second responses into a stream of packets (forwarding the received responses to the client without storing, see paragraph 25); and

means for forwarding the stream of packets to the client (see paragraph 25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4-5, 10-13, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Shabtay*.

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Regarding claim 2, 4-5, 10-13, 17, and 20, *Shabtay* fails to disclose sending a plurality of tokens to the determined servers and receiving responses from the servers to determine each server's load.

However, it would have been obvious to one having ordinary skill in the art the time of invention was made cause the load balancer of *Shabtay* to generate signals and forwarding the signals to the selected servers in order to determining the individual load of each selected server –thus the load balancer can function as it intended used i.e. forwarding the new request to the server with less load in order to avoid overloading the servers.

Conclusion

Any response to this action should be mailed to:

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220 20th Street South
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Arlington, VA 22202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Chau Nguyen**, can be reach on **(571) 272-3126**. The fax phone number for this group is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bob A. Phunkulh
Primary Examiner
TC 2600
Art Unit 2661
August 18, 2005

BOB PHUNKULH
PRIMARY EXAMINER